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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,992	07/07/2003	Joseph Yudovsky	AMAT/4191.C1/CPI/WCVD/PJS	8160
44257	7590	03/24/2006	EXAMINER	
PATTERSON & SHERIDAN, LLP 3040 POST OAK BOULEVARD, SUITE 1500 HOUSTON, TX 77056			MACARTHUR, SYLVIA	
			ART UNIT	PAPER NUMBER
			1763	
DATE MAILED: 03/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/614,992	YUDOVSKY ET AL.	
	Examiner	Art Unit	
	Sylvia R. MacArthur	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-6,8-14 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-6,8-14 and 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 3-6, 8-14 and 17-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng et al (EP 0553691).

Regarding claim 3: Cheng teaches an apparatus comprising:

- a) a substrate support 40
- b) a first edge ring 50 disposed on the substrate support, the first edge ring having one or more tapered recesses 52 and
- c) a second edge ring 100 having one or more matching tapered pins 72 for mating engagement with the one or more tapered recesses of the first edge ring, wherein the first edge ring comprises a purge ring, see col. 10 lines 32-47.

Regarding claim 4: An apparatus comprising:

- a) a substrate support 40.
- b) a first edge ring disposed on the substrate support, the first edge ring having one or more tapered recesses 52, and
- c) a second edge ring having one or more matching tapered pins for mating engagement with the one or more tapered recesses of the first edge ring, wherein the

second edge ring comprises a shadow ring (the shield acts as a shadow ring in that it masks a portion of the wafer as discussed in the specification page 3 of the present invention).

Regarding claim 5: An apparatus comprising:

- a) a substrate support;
- b) a first edge ring disposed on the substrate support, the first edge ring having one or more tapered recesses and
- c) a second edge ring having one or more matching tapered pins for mating engagement with the one or more tapered recesses of the first edge ring. wherein the first edge ring includes one tapered recess and one diametrically positioned tapered slot, see claim 11 of Cheng, and wherein the second edge ring includes two tapered pins diametrically positioned for mating engagement with the recess and the slot.

Regarding claim 6: The apparatus of claim 3, wherein the substrate support comprises a purge gas channel, see col8 lines 25-58.

Regarding claim 8: An apparatus for processing substrates, comprising:

- a) a chamber,
- An apparatus for processing
- b) a substrate support disposed in the chamber',
 - c) a first edge ring disposed on the substrate support, the first edge ring having one or more tapered recesses and
 - d) a second edge ring having one or more matching tapered pins for mating

engagement with the one or more tapered recesses of the first edge ring, further comprising:

e) a chamber body ring disposed on an interior surface of the chamber, the chamber body ring having one or more recesses for supporting engagement with the second edge ring, see Figs. 5-8 of Cheng et al.

Regarding claim 9: The apparatus of claim 8 wherein the first edge ring includes one or more slots disposed for mating engagement with the one or more tapered pins on the second edge ring, see Claim 11 of Cheng et al.

Regarding claims 10 and 21-25: The apparatus of claim 8 wherein the first edge ring comprises a purge ring see col. 10 lines 32-43.

Regarding claim 11: The apparatus of claim 8 wherein the second edge ring comprises a shadow ring(the shield acts as a shadow ring in that it masks a portion of the wafer as discussed in the specification page 3 of the present invention).

Regarding claim 12: The apparatus of claim 8 wherein the first edge ring includes one tapered recess and one diametrically positioned tapered slot, and wherein the second edge ring includes two tapered with the recess and the slot, see Figs. 5-8 of Cheng et al. pins diametrically positioned for mating engagement

Regarding claim 13: The apparatus of claim 8 wherein the substrate support comprises a purge gas channel, and the first edge ring comprises a purge ring col. 10 lines 32-43.

Regarding claim 14: The apparatus of claim 8 wherein the one or more recesses on the chamber body ring include tapered side surfaces.

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Regarding claim 17: A method for supporting a

substrate in a chamber comprising:

- a) positioning the substrate on a substrate support having a first edge ring disposed around a substrate supporting surface, the first edge ring having one or more recesses, and
- b) positioning a second edge ring above the first edge ring, wherein the second edge ring has one or more pins for mating engagement with the one or more recesses on the first edge ring, and wherein the first edge ring comprises a purge ring see Figs. 5-8 of Cheng et al and col. 10 lines 32-43.

Regarding claim 18: A method for supporting a substrate in a chamber comprising:

- a) positioning the substrate on a substrate support having a first edge ring disposed around a substrate supporting surface, the first edge ring having one or more recesses, and
- b) positioning a second edge ring above the first edge ring. wherein the second edge ring has one or more pins for mating engagement with the one or more recesses on the first edge ring wherein the second edge ring comprises a shadow ring he shield acts as a shadow ring in that it masks a portion of the wafer as discussed in the specification page 3 of the present invention).

Regarding claim 19: A method for supporting a

substrate in a chamber. comprising:

- a) positioning the substrate on a substrate support having a first edge ring disposed around a substrate supporting surface. the first edge ring having one or more

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recesses, and

b) positioning a second edge ring above the first edge ring, wherein the second edge ring has one or more pins for mating engagement with the one or more recesses on the first edge ring wherein the first edge ring includes one tapered recess and one diametrically positioned tapered slot, and wherein the second edge ring includes two tapered pins diametrically positioned for mating engagement with the recess and the slot see claim 11 of Cheng et al.

Regarding claim 20: A method for supporting a substrate in a chamber, comprising:

a) positioning the substrate on a substrate support having a first edge ring disposed around a substrate supporting surface the first edge ring having one or more recesses.

b) positioning a second edge ring above the first edge ring, wherein the second edge ring has one or more pins for mating engagement with the one or more recesses on the first edge ring and c) flowing a purge gas around the substrate during substrate processing see Figs. 5-8 and col. 10 lines 32-43.

3. Claims 3-6, 8-14 and 17-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Koai et al (US 6,159,299).

Koai et al teaches an apparatus comprising:

a) a substrate support pedestal 150

b) a first edge ring 280 disposed on the substrate support, the first edge ring having one or more tapered recesses and

c) a second edge ring 200 having one or more matching tapered pins 72 for mating

engagement with the one or more tapered recesses of the first edge ring, wherein the first edge ring comprises a purge ring.

The edge ring assembly 200 is secured to the purge ring 280 by centering bolts (pins) 271. Slots 288 are engaged with the bolts.

Channels 156 are formed in the pedestal to provide gas flow.

Response to Arguments

4. Applicant's arguments, see pages 7 and 8, filed 12/27/2005, with respect to the double patenting rejections have been fully considered and are persuasive. The double patenting rejections of US '340 and '748 has been withdrawn.

5. The arguments regarding Chen and Koai are not persuasive and have been maintained. Regarding Cheng (EP 0553691) Figures 5-7 illustrate two rings that mate together 50 with recesses and ring 70 with pins that correspond to the recesses. The first ring in col.8 lines 25-45 is taught to have a passageway for purge gas thus it acts/anticipates a purge ring.

Regarding Koai (US 6,159,299) Figs. 2b and 2c illustrates three rings forming an edge ring assembly 200, see 240,230, and 220 this ring assembly is in mating relationship with a purge ring 280 see col. 6 lines 1-17.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the hours of 8:30 a.m. and 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sylvia R MacArthur

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Patent Examiner
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March 20, 2006

pt
PARVIZ HASSANZADEH
SUPERVISORY PATENT EXAMINER